

Figure 1: Typical industrial control loop

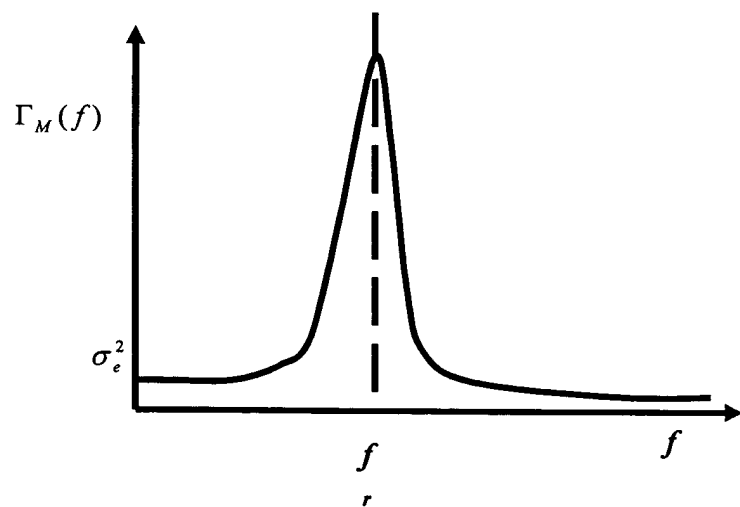


Figure 2: Approximated spectrum, $\Gamma_M(f)$, of the deviation error signal.

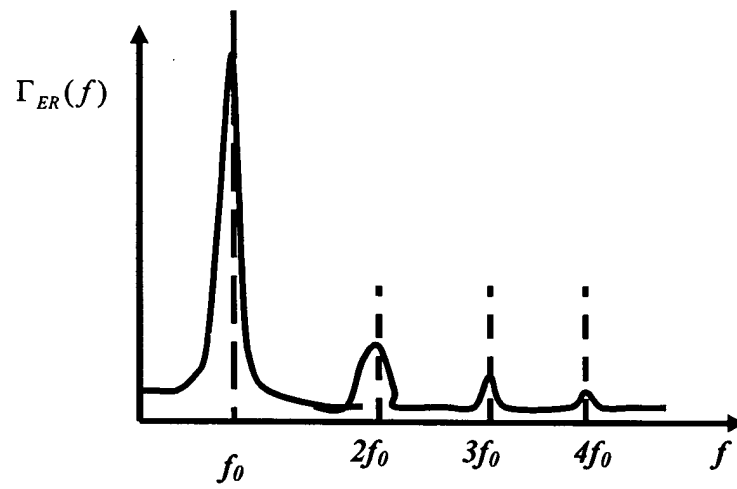


Figure 3
Spectrum of the deviation error signal $ER(t)$, showing the presence of harmonics.

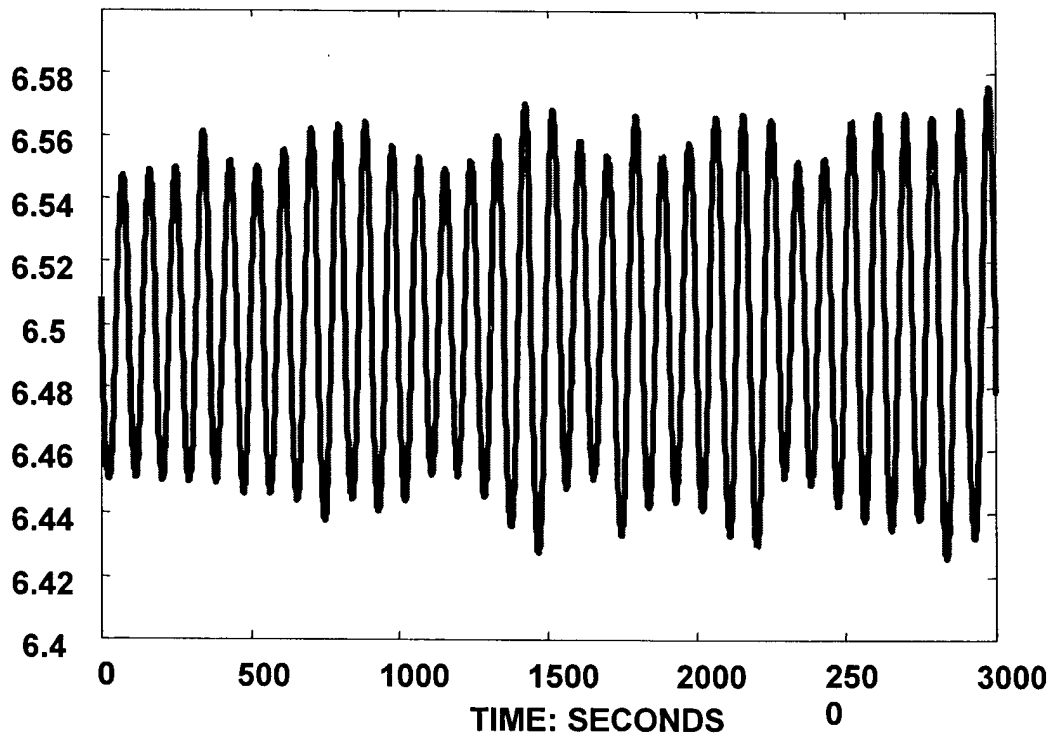


Figure 4: Output response for a level control loop.

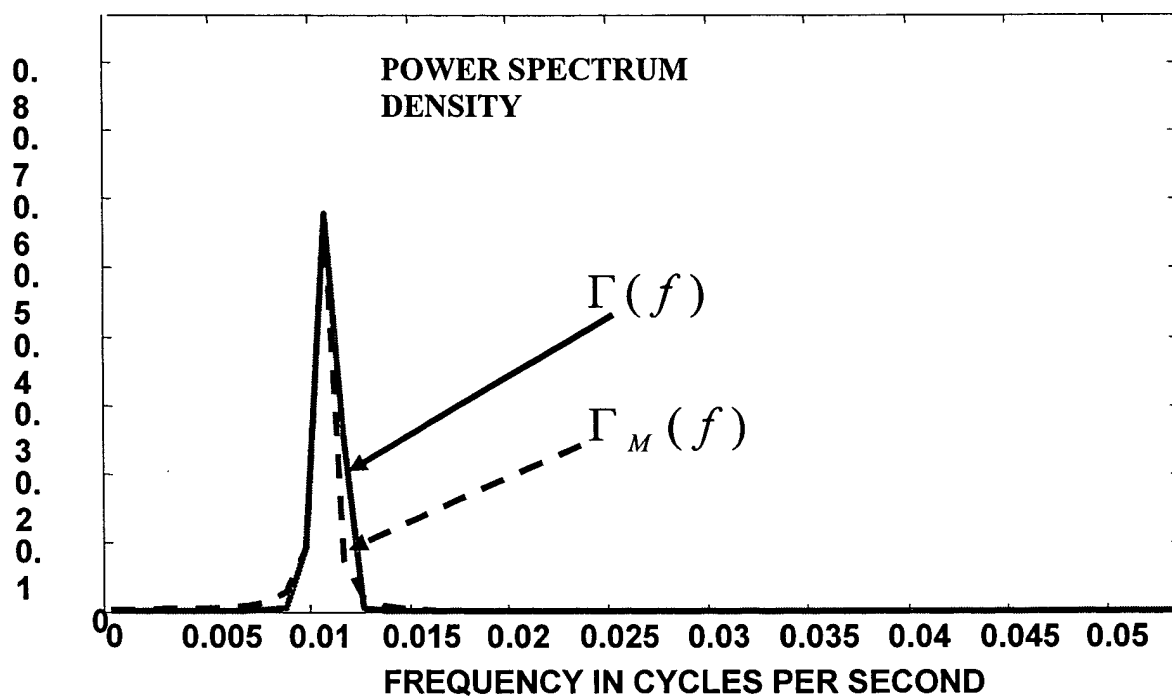


Figure 5: Power spectrum densities, $\Gamma_M(f)$ and $\Gamma(f)$, for the level control loop

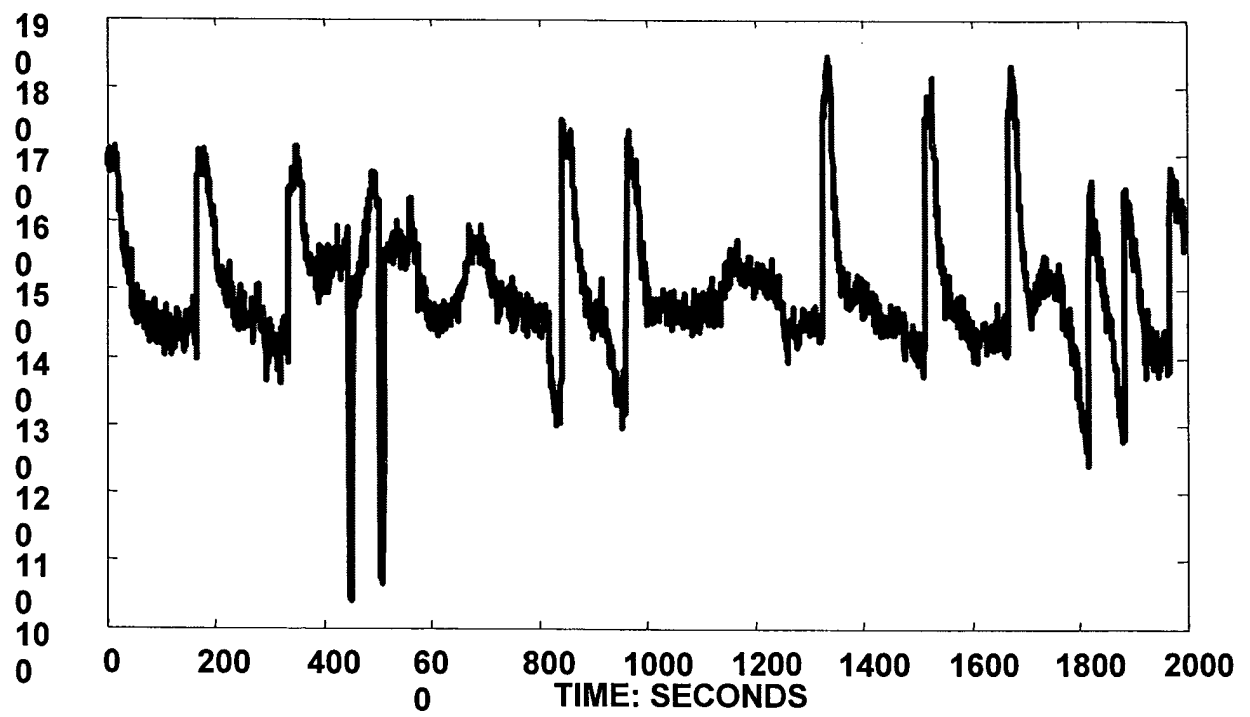


Figure 6: Output response for a pressure control loop.

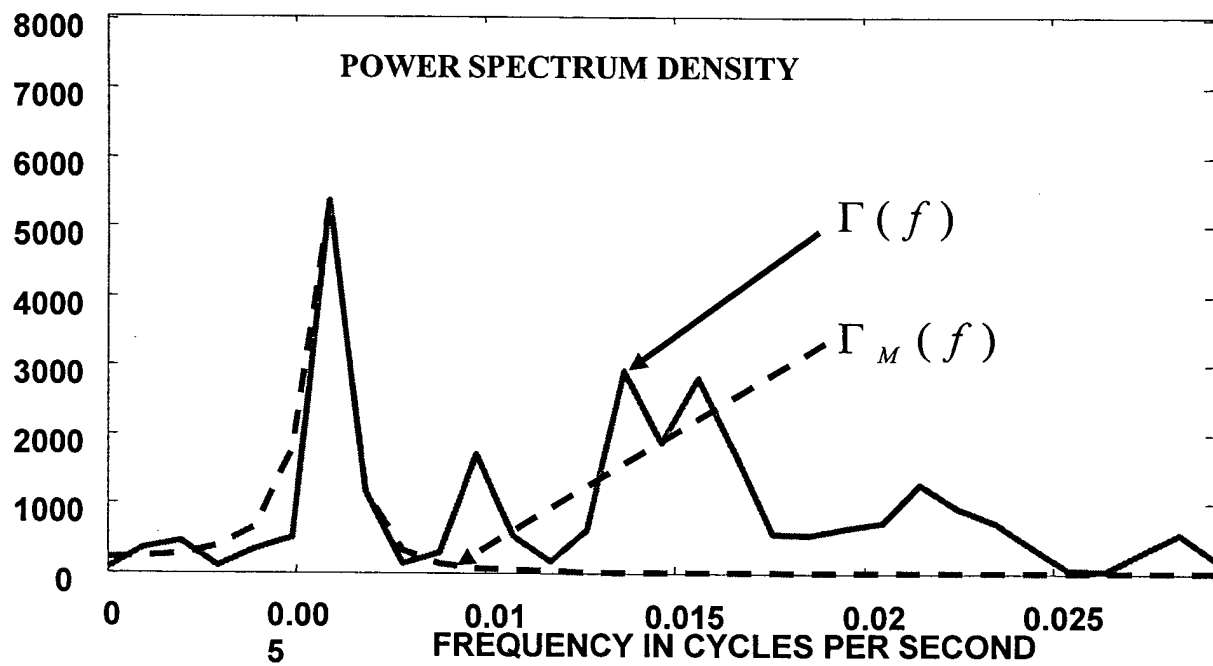


Figure 7: Power spectrum densities, $\Gamma_M(f)$ and $\Gamma(f)$, for the pressure control loop

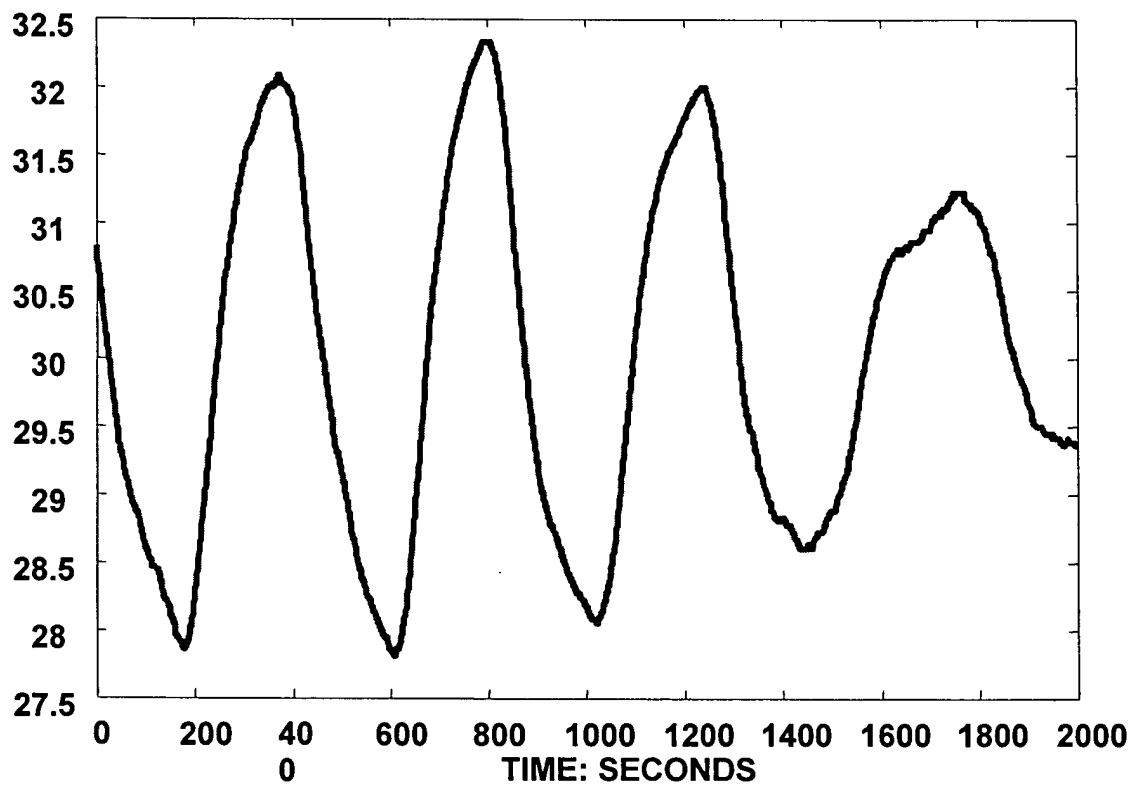


Figure 8: Output response of a temperature control loop.

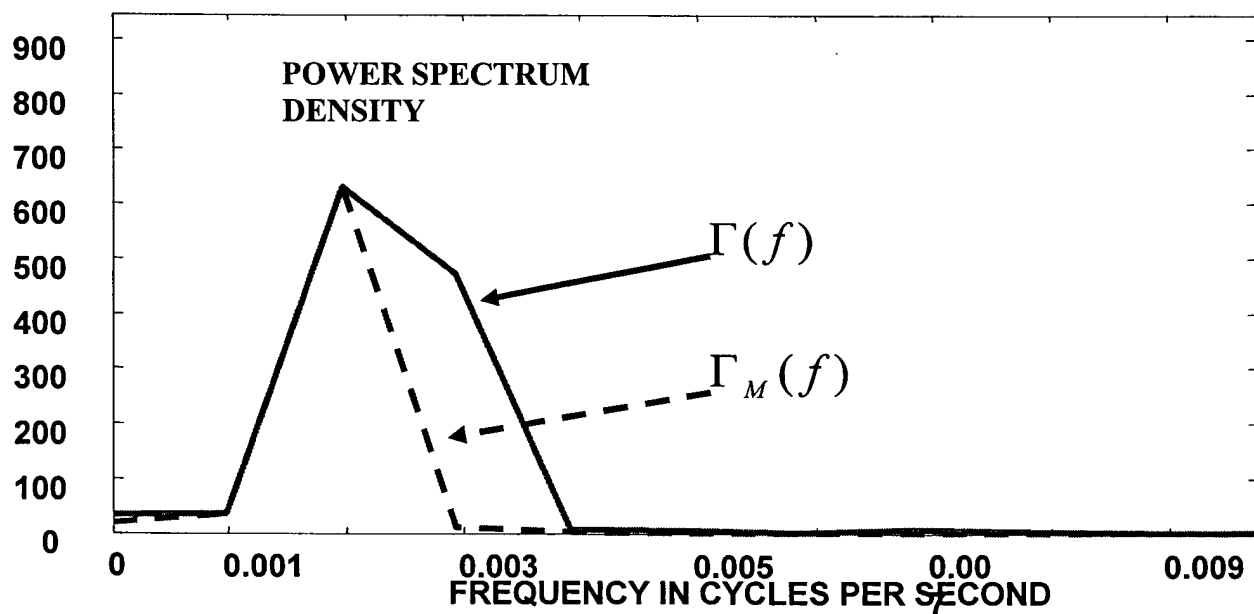


Figure 9
Power spectrum densities, $\Gamma_M(f)$ and $\Gamma(f)$, for the temperature control loop

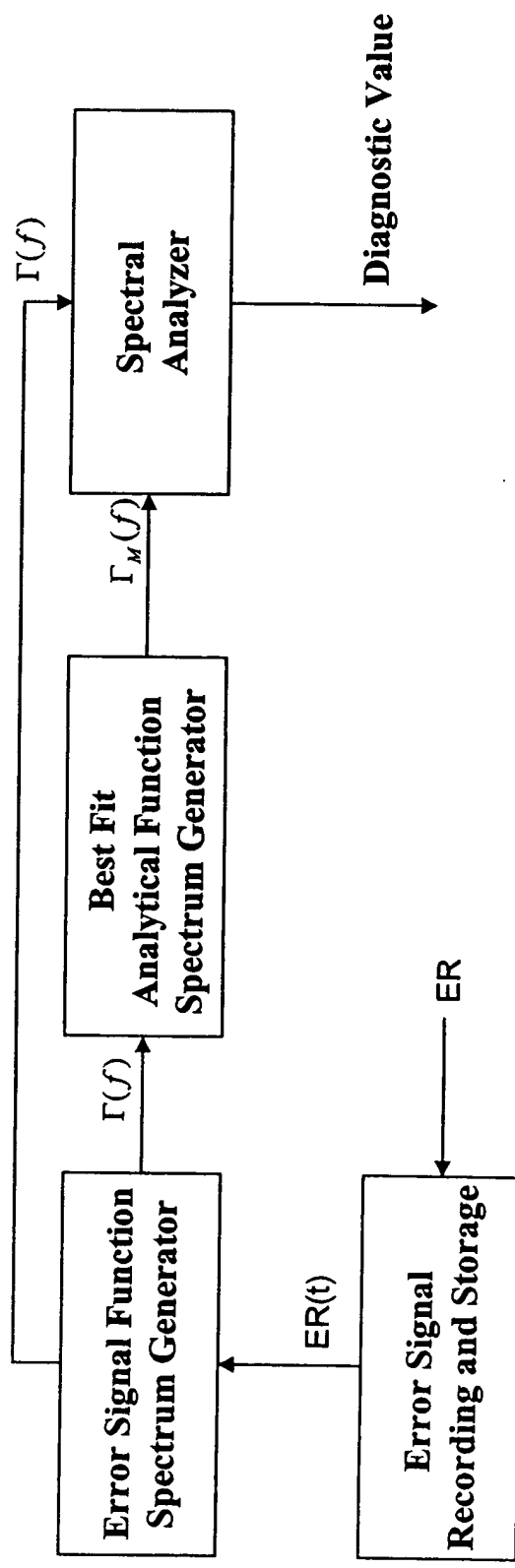


Figure 10

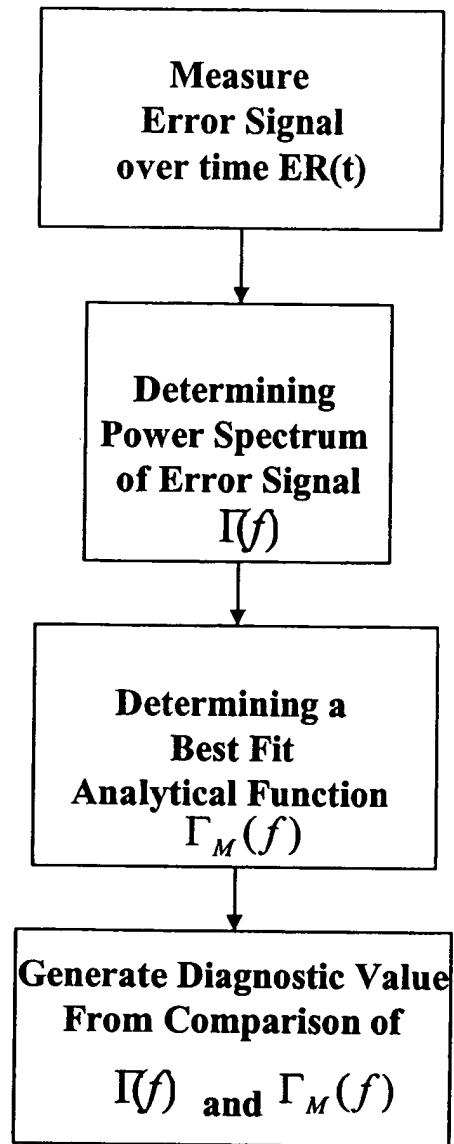


Figure 11